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Striking a Delicate Balance: Intellectual Property, Antitrust, Contract and Standardization in the Computer Industry

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STRIKING A DELICATE BALANCE:
INTELLECTUAL PROPERTY, ANTITRUST, CONTRACT, AND
STANDARDIZATION IN THE COMPUTER INDUSTRY

Maureen A. O'Rourke*

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* Professor of Law, Boston University School of Law. This Article was prepared in conjunction with the Second International Harvard Conference on Internet & Society held in May, 1998. Thanks to the participants at the "Antitrust and the Internet" panel at the Conference for sharing their thoughts on these topics, and to Dave Kumar for soliciting this article. Thanks also to Joseph Brodley, Keith Hylton, Michael Meurer, James Molloy, Henry Monaghan, Jane Ginsburg and to my research assistants Kim Schmitt, Tim Rice, and Dan Gaudet.

I. INTRODUCTION

Shortly before the Second International Harvard Conference on Internet & Society, the Department of Justice ("DOJ") brought a widely publicized suit against the Microsoft Corporation.¹ In its complaint, the DOJ charged Microsoft with engaging in a variety of antitrust wrongs connected with its alleged monopoly position in the market for personal computer ("PC") operating system software.² The Conference panel on Antitrust and the Internet, which had planned to focus on how antitrust law affects standard-setting efforts and the implications for the Internet, quickly abandoned that topic in favor of discussion of the Microsoft suit.

Shortly after the conclusion of the Conference, the Federal Trade Commission ("FTC") brought a complaint against Intel Corporation for allegedly using unfair means to entrench its monopoly position in the microprocessor industry.³ Doubtlessly, had the FTC filed this complaint earlier, the panel participants would have discussed it as well.

In fact, however, the planned panel topic of standardization and the two actions are intimately related. Microsoft's market power has largely derived from its ownership of the *de facto* standard PC operating system. Microsoft owes its position as the standard-bearer to its copyrighted software and its restrictive contractual arrangements with third parties. Similarly, Intel's market power is attributable to its ownership of the *de facto* standard in microprocessor technology. That position has in part been assisted by Intel's patent portfolio. The FTC claims that Intel is now wrongfully exercising its power by attempting to coerce others into licensing patents to it.⁴

Thus, any discussion of antitrust law and standard setting, particularly in today's computer industry, requires a consideration not just of antitrust law but also its relationship to both intellectual property and contract law. At first, one might argue that antitrust and intellectual property law are irretrievably at odds: the former forbids certain

1. See *United States v. Microsoft Corp.*, No. 98-1232 (D.D.C. filed May 18, 1998), available at <www.usdoj.gov/atr/cases/f1700/1763.htm>.

2. See *id.* ¶¶ 54–58 (defining the relevant market as that for "operating systems written for the Intel x86/Pentium (or 'PC') class of microprocessors," and describing Microsoft's market share as "in excess of 80%").

3. See FTC Complaint, *In re Intel Corp.*, No. 9288, ¶¶ 8–9 (filed June 8, 1998), available at <<http://www.ftc.gov/os/1998/9806/intelfin.cmp.htm>> [hereinafter Intel Complaint].

4. See *id.* ¶¶ 11–14 (describing how Intel threatened to terminate relationships with at least three customers unless those customers licensed their patents to Intel); see also discussion *infra* Part II.B.1 (discussing the FTC complaint in more detail).

monopolies;⁵ the latter helps to enable them by granting enumerated exclusive rights.⁶ As antitrust analysis has become more prominently focused on creating or safeguarding market conditions that encourage innovation,⁷ however, its orientation has come more obviously to resemble that of intellectual property law, at least superficially. Historically, courts and commentators have recognized that increasing the public's welfare by encouraging innovation is a primary goal of the intellectual property system.⁸

Antitrust's relationship with contract law has traditionally been an important part of antitrust litigation. Courts frequently scrutinize contracts of dominant market players to determine if the terms are overreaching in light of one side's market power. The relationship between intellectual property and contract law has, on the other hand, largely been ignored until recently.⁹ But the computer industry has

5. See, e.g., 15 U.S.C. § 2 (1994) ("Every person who shall monopolize, or attempt to monopolize . . . any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony."); *United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966) ("The offense of monopoly under [section] 2 of the Sherman Act has two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.").

6. Section 106 of the Copyright Act lists the exclusive rights of the copyright holder including the rights to reproduce the copyrighted work in copies, to prepare derivative works, to distribute copies, to perform the copyrighted work publicly, and to display the copyrighted work publicly. See 17 U.S.C. § 106 (1994). Section 154 of the Patent Act grants the patentee "the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States." 35 U.S.C. § 154(a)(1) (1994).

7. See generally John E. Daniel, *Two Federal Courts Differ on Whether a Company Has the Right to Refuse to Deal with a Company, and the Rulings May Affect the FTC's Case Against Intel Corp.*, NAT'L L.J., Aug. 3, 1998, at B4 (quoting the joint Justice Department/FTC Antitrust Guidelines for the Licensing of Intellectual Property as "describ[ing] intellectual property law and antitrust law as 'sharing the common purpose of promoting innovation and enhancing common welfare'"); Joseph F. Brodley, *The Economic Goals of Antitrust: Efficiency, Consumer Welfare, and Technological Progress*, 62 N.Y.U. L. REV. 1020 (1987) (contending that antitrust law should be primarily concerned with innovation efficiencies); Sean P. Gates, *Standards, Innovation, and Antitrust: Integrating Innovation Concerns into the Analysis of Collaborative Standard Setting*, 47 EMORY L.J. 583, 585–90 (1998) (describing the recent move by antitrust agencies to consider innovation in merger analysis and noting the difficulties inherent in an approach emphasizing innovation).

8. See Maureen A. O'Rourke, *Rethinking Remedies at the Intersection of Intellectual Property and Contract: Toward a Unified Body of Law*, 82 IOWA L. REV. 1137, 1143 & n.19 (1997).

9. The debates over U.C.C. Article 2B on Software Contracts and Licenses of

brought to the fore the issue of how to address a dominant market participant's use of intellectual property and restrictive contractual provisions to attain and maintain market power.

The particular nature of computer technology and the industry accounts for this phenomenon. Computers are characterized by a layered architecture. One layer builds on the immediately preceding one and so on. For example, the operating system builds on the hardware, while the application software builds on the operating system. At each level, there is an interface to the next higher level. For example, the hardware has an Application Binary Interface ("ABI"), or set of instructions to which an operating systems programmer requires access in order to code the operating system. In turn, an operating system has an Application Programming Interface ("API") that specifies a set of functions that an application may call from its own program as the application works with the operating system. A program written for one operating system generally will not work on another without adjustment because each operating system has different functions and function calls. Similarly, an operating system written for one microprocessor will generally not run on another hardware architecture without adjustment.

Because of this layered architecture and incompatibility across different systems, both the microprocessor and operating system markets historically have been characterized by network effects. In other words, a particular microprocessor or operating system becomes more valuable as more people adopt it. The greater the number of adopters of a particular operating system, the more application developers will write to that system, thereby increasing its value and encouraging still others to adopt it. This synergy adds to already existing barriers to entry and

Information have brought considerable attention to the issue. See, e.g., *Memo from Charles McManis to Members of the American Law Institute* (visited Dec. 8, 1998) <<http://www.ali.org/ALI/mcmanis2.htm>> (discussing the appropriate balance between state law, Article 2B, and the federal intellectual property system and setting forth citations to relevant sources in the debate).

reinforces the network effect.¹⁰ The dominant player then becomes the standard.

There are essentially two ways in which the market may create a standard.¹¹ First, a group of competitors may collaborate to define a standard with each then marketing its own products conforming to it. Each company would be authorized to use the standard, but any changes to it would require the consent of the group. Antitrust law has always been concerned with group activities, particularly activities among horizontal competitors. Thus, collaborative standard setting historically has been a topic for antitrust analysis.¹² Second, one company may develop a product that, by virtue of market forces and a little bit of luck, becomes the standard.¹³ In this case, antitrust law may be implicated when the standard owner possesses and misuses a dominant position.

While a number of standards bodies exist in the computer industry,¹⁴ the great success stories of the industry are companies such as Microsoft and Intel who have developed proprietary products protected by

10. See Intel Complaint, *supra* note 3, ¶¶ 8–9 (stating that capital expenditures and engineering work involved in entering the microprocessor market would total over \$250 million, while the cost of building a viable semiconductor fabrication plant would be about \$1.6 billion); United States v. Microsoft Corp., No. 98-1232, ¶ 3 (D.D.C. filed May 18, 1998) (“There are high barriers to entry into the market for PC operating systems. One of the most important barriers to entry is the barrier created by the number of software applications that must run on an operating system in order to make [it] attractive to end users.”); see generally Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479, 483–84 (1998) (stating that “a network effect exists where purchasers find a good more valuable as additional purchasers buy the same good,” using the term “network effects” to “include both networks of like goods and goods compatible with the network,” and noting that network effects can be quite strong).

11. See Gates, *supra* note 7, at 597–98 (identifying the two sources of market-based standards, as well as a third source of standards — government standard setting).

12. See, e.g., *id.* at 613–47 (describing antitrust cases involving standard setting).

13. Cf. United States v. Microsoft Corp., 56 F.3d 1448, 1452 (D.C. Cir. 1995) (upholding consent decree between the United States and Microsoft and stating that “[t]he government believes that Microsoft’s initial acquisition of monopoly power in the operating systems market was the somewhat fortuitous result of IBM choosing for its PCs the operating system introduced by Microsoft (‘MS-DOS’), which, with Microsoft’s successful exploitation of that advantage, led Microsoft to obtain an installed base on millions of IBM, and IBM-compatible, PCs”).

14. See Jack E. Brown, *Technology Joint Ventures to Set Standards or Define Interfaces*, 61 ANTITRUST L.J. 921, 921–22 (1993) (listing a number of standards bodies).

intellectual property rights that have become standards.¹⁵ Each of those companies possesses a dominant share of its relevant market and each now shares the distinction of being involved in antitrust litigation brought by both government agencies and private parties.

This Article briefly surveys the litigation recently filed by the government against both Microsoft and Intel. It reviews these cases to highlight how defining the relationship among intellectual property, antitrust, and contract will influence the outcome in each case. The Article then considers the policy question of how to define this relationship in a way so as to ensure future innovation not simply by Microsoft and Intel but also by other market participants and potential market entrants. This Article does not seek to resolve this question. Rather, it identifies some of the considerations that policymakers should evaluate in arriving at a reasonable answer. The Article concludes that in the current absence of a heuristic to guide courts in fitting these bodies of law together, courts should approach claims — particularly those involving industries characterized by network effects — carefully, and with regard for the fact that each body of law emphasizes different means through which it attempts to achieve its goals.

II. THE CURRENT LITIGATION — MICROSOFT AND INTEL

Microsoft and Intel find themselves in oddly similar legal postures. Each faces public antitrust litigation as well as complaints by others that either directly allege antitrust violations or challenge the company's contractual practices related to standardization.¹⁶ It is not surprising that both of these companies are in roughly similar litigation positions. Intel's microprocessors work primarily with Microsoft's operating

15. Note, however, that at least initially, Intel openly licensed its technology, enabling a market of competitive suppliers. See Dan Steere, Case Study, *Intel Corporation (D): Microprocessors at the Crossroads*, Stanford University Graduate School of Business BP-256D (1993), at 3 (noting that Intel licensed its technology to a number of vendors such that "in 1984, when the Intel Architecture accounted for 59% of all 16-bit microprocessors, Intel's share of the microprocessor market was only 14.5%").

16. See *Sun Microsystems, Inc. v. Microsoft Corp.*, No. C-97-20884, ¶¶ 1–10 (N.D. Cal. filed May 12, 1998) (Second Amended Supplemental Complaint) (alleging, inter alia, that Microsoft breached its contract with Sun and infringed Sun's trademarks and copyrights by marketing products that are not compatible with Sun's JAVA technology); see also Mark A. Lemley & David McGowan, *Could JAVA Change Everything? The Competitive Propriety of a Proprietary Standard*, 520 PLI/PAT. 453, 498–99 (1998) (discussing the suit and considering whether it is appropriate for Sun to retain intellectual property rights in the JAVA standard).

systems and each one, by virtue of network effects, reinforces the other. Thus, their market shares are remarkably similar and tend to move in tandem. Differences in the companies' conduct, however, abound and are reflected in the differing substantive legal grounds for complaint. Below is a synopsis of the litigation.¹⁷ It reveals that despite some differences, both cases illustrate the ways in which intellectual property, contract, and antitrust issues may intertwine.

A. *United States v. Microsoft*

Microsoft is no stranger to antitrust litigation. In 1995, it entered into a consent decree with the DOJ to settle pending antitrust charges.¹⁸ That decree sharply limited Microsoft's use of certain contractual terms, including placing limits on contract length and per-processor licensing practices.¹⁹ The current litigation is somewhat more far-reaching substantively and includes complaints not just by the DOJ but also by a number of states' attorneys general.²⁰ As Judge Thomas Penfield Jackson summarized in refusing to dismiss all but one claim in the litigation:

The [federal and state] complaints allege essentially the same antitrust violations, namely, that Microsoft: (1) unreasonably restrained competition by 'tying' its

17. The analysis concentrates primarily on the litigation brought by the government, although it also considers private litigation involving Intel because that private action also is implicated in the FTC's complaint. The government litigation captures most of the issues and therefore forms the centerpiece of the analysis. However, both companies are facing serious antitrust allegations in litigation brought by private parties. *See, e.g., Caldera, Inc. v. Microsoft Corp.*, No. 96-CV-645, ¶¶ 72–92 (D. Utah filed Feb. 12, 1998), *available at* <<http://www.caldera.com/lawsuit/amendment.html>> (setting forth Caldera's first amended complaint which alleges that Microsoft engaged in a variety of anticompetitive practices in maintaining its DOS monopoly in violation of sections 1 and 2 of the Sherman Act and section 3 of the Clayton Act).

18. *See United States v. Microsoft Corp.*, No. 94-1564, 1995 WL 505998 (D.D.C. Aug. 21, 1995) (final judgment).

19. *See id.* at *2–*3 (“Microsoft shall not enter into any License Agreement for any Covered Product that has a total Duration that exceeds one year Microsoft shall not enter into any Per Processor license”). The final judgment also included other provisions designed to prevent Microsoft from conditioning access to its products on the licensee's agreement not to distribute products of Microsoft's competitors. *See generally id.* at *2–*5.

20. Twenty states' attorneys general have joined the suit. *See United States v. Microsoft Corp.*, No. 98-1232, 1998 WL 614485, at *1 (D.D.C. Sept. 14, 1998) (order denying defendant's motion for summary judgment on all but one claim).

Internet browser [Internet Explorer] to [its operating system] Windows 98; (2) unreasonably restrained competition by entering into “exclusive dealing” arrangements with various Internet providers; (3) unreasonably restrained competition by imposing “boot and start-up screen” restrictions on original equipment manufacturers (“OEMs”); (4) illegally maintained a monopoly in its operating system software through various exclusionary and predatory practices, including, but not limited to, the tying and exclusive dealing arrangements; and (5) attempted to monopolize the market for Internet browsers. . . . The [United States] and the plaintiff States seek virtually the same relief, namely, that the Court enjoin Microsoft from: (1) entering into or enforcing certain contractual provisions which allegedly foreclose distribution and/or promotion of competing Internet browsers; (2) distributing a “bundled” version of its operating system and browser unless Microsoft provides a practical way of removing browser functions and provides OEMs that do not wish to license the browser an appropriate deduction from the royalty fee; (3) distributing a “bundled” version of its operating system and browser unless Microsoft treats Netscape Corporation’s (“Netscape”) browser the same as its own with respect to inclusion and removal; and (4) retaliating against any OEM that chooses to remove Microsoft’s browser from Windows 98.²¹

Virtually any time an antitrust case involves a litigant owning intellectual property, there is some relationship between the contractual provisions scrutinized under antitrust law and the possession of the intellectual property right. But for ownership of that right, the litigant might not be able to obtain agreement to restrictive contractual terms. This relationship, however, often remains unstated. For example, in the absence of a copyright protecting its operating systems software, Microsoft might not have been able to obtain others’ agreements to

21. *Id.* The court granted summary judgment on a monopoly leveraging claim brought by the states, labeling that claim as “inconsistent with both the Sherman Act’s plain text and with Supreme Court pronouncements on the general limitations of its reach” *Id.*

distribute its Internet browser exclusively. But the focus of the complaint regarding exclusive dealing is on the contractual term itself and Microsoft's market share, not on the role of the copyright in helping to enable that market share and obtain agreement to the exclusivity clause. In other parts of the litigation, though, the parties have made this usually unstated premise explicit.

For example, in answering the allegation that Microsoft misused its power in the operating system market by requiring OEMs to agree to a uniform boot-up sequence and desktop display in exchange for a license to Windows, Microsoft argued that its contractual provisions simply echo rights it already has under copyright law:

[Microsoft] admits that (i) [its] license agreements with OEMs, consistent with industry practice and Microsoft's rights under the federal copyright laws, generally provide that those OEMs may not modify or delete any part of Microsoft's copyrighted Windows operating system software program without a license from Microsoft to do so; and (ii) Microsoft's license agreements with OEMs generally require that the very first time an end user turns on a new computer on which Windows has been installed by an OEM, the Windows operating system be permitted to go through its full startup sequence as designed, developed and tested by Microsoft and display the Windows "desktop" screen without any aspect of that screen having been deleted by the OEM.²²

This answer could equally well apply to Microsoft's refusal to authorize OEMs to modify its software to remove Internet Explorer—Microsoft's licenses are simply restating its copyright rights. In fact, Microsoft's "Sixth Defense" to the complaint is broadly stated as: "[t]he Complaint's challenges to Microsoft's license agreements with computer manufacturers are without legal merit by reason of Microsoft's rights under the federal copyright laws."²³

22. *United States v. Microsoft Corp.*, No. 98-1232, ¶24 (D.D.C. filed May 18, 1998) (Defendant Microsoft Corporation's Answer to the Complaint Filed by the U.S. Department of Justice), *available at* <<http://www.microsoft.com/presspass/doj/7-28answerdoj.htm>>.

23. *Id.* at "Sixth Defense." Note also that Microsoft might have defended the tying claim using a similar rationale. Microsoft could have argued that its integrated Windows/Internet Explorer product is one copyrighted product and therefore that

Accepting for the moment that Microsoft is correct in asserting that its license agreements merely echo its rights under copyright law, the ultimate issue for the court is whether one violates the antitrust laws by merely restating rights that one would otherwise have under copyright law. It is conventional law that mere possession of an intellectual property right does not insulate its owner from antitrust laws.²⁴ The issue, however, still remains as to whether and under what circumstances market share and other factors independently limit the rights an owner of intellectual property would otherwise have. In other words, does antitrust law effectively limit a patent or copyright's scope under certain circumstances and, if so, what are those circumstances?

In addressing Microsoft's motion for summary judgment, the court suggests that it believes that antitrust law *does* place limits on the exercise of a copyright when the intellectual property right is being used to further an anti-competitive purpose. In assessing the claim regarding the boot-up screen, the *Microsoft* court set forth two questions for analysis. The first, and potentially more interesting, issue addressed is "the extent of copyright protection in the specific portions of software plaintiffs seek to modify."²⁵ The court noted:

[W]hatever copyright protection Microsoft enjoys in its software is not unlimited. For example, copyright in a computer program does not extend to its functional aspects. It does not preclude design choices dictated by necessity, cost, convenience or consumer demand. And it does not render inviolate portions of the program that are not original to its creator.²⁶

The court seems to be implying that if portions of the program are not copyrighted then Microsoft is not free to contract with others to treat those portions as if they were. This is a controversial proposition. A

Microsoft cannot be compelled to "split" its copyright into component parts. Instead, the arguments on tying have focused on the correct standard to apply in assessing the claim and whether, in fact, two products exist, irrespective of the copyright issue. See *Microsoft*, 1998 WL 614485, at *7-*13 (discussing the standard applied in "technological tying" cases and whether Windows and Internet Explorer could be two separate products).

24. See, e.g., *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1185 n.63 (1st Cir. 1994) ("It is in any event well settled that concerted and contractual behavior that threatens competition is not immune from antitrust inquiry simply because it involves the exercise of copyright privileges.").

25. *Microsoft*, 1998 WL 614485, at *17.

26. *Id.* at *15 (citations omitted).

more limited interpretation would be that under all the facts and circumstances, including the network effects of the operating system market and Microsoft's possession of monopoly power in it, Microsoft cannot contract with another party to confer copyright-type rights on non-copyrightable data as part of a scheme to leverage its power into another market.

Even if all of Microsoft's software merits copyright protection, the question still remains whether it "abused its copyright for anticompetitive purposes"²⁷ — the second part of the court's taxonomy. The court said:

[C]opyright law does not give Microsoft blanket authority to license (or refuse to license) its intellectual property as it sees fit. A copyright does not give its holder immunity from laws of general applicability, including the antitrust laws. Copyright holders are restricted in their ability to extend their control to other markets. They may not prevent the development and use of interoperable programs by competitors. Antitrust liability may also attach to other anticompetitive licensing restrictions involving copyrighted works.²⁸

The court seems to be in danger of collapsing the antitrust and copyright inquiries rather than engaging in an economic analysis under both sets of laws, recognizing their potentially differing interests, and considering how network effects should influence the inquiry. The outcome might still be the same, but the analysis would be more helpful and less likely to be misused in future cases.

The court's parenthetical regarding the refusal to license is also interesting. While it is generally the case that the owner of an intellectual property right is free not to license that right, the parenthetical suggests that the court may be in favor of an affirmative

27. *Id.* at *17.

28. *Id.* at *15 (citing *DSC Communications Corp. v. DGI Techs., Inc.*, 81 F.3d 597, 601 (5th Cir. 1996); *Practice Management Info. Corp. v. American Med. Ass'n*, 121 F.3d 516, 520–21 (9th Cir. 1997); and *Lasercomb Am., Inc. v. Reynolds*, 911 F.2d 970 (4th Cir. 1990)). The court cited some rather controversial antitrust cases in support of its statements that copyright owners are not immune from the antitrust laws merely by virtue of their ownership of copyrights. *See id.* (citing *Data Gen.*, 36 F.3d at 1185, and *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 479 (1992)); *see also infra* Part III.A (discussing briefly the *Data General* and *Kodak* cases).

duty to license under certain circumstances — a monopolist in control of the gateway (operating system technology) to another market (the applications market). In other words, the Windows desktop is a scarce resource and it functions as the gateway to the applications market. Control over which applications appear on the desktop enables Microsoft to give an advantage to its own applications. This is an argument regarding a unilateral refusal to deal that has an implicit “essential facilities” component to it — one that has been made explicit in the Intel litigation discussed below in Part II.B.2.

The antitrust claims based on contract are thus linked with copyright concerns. Perhaps the most interesting question that *Microsoft* raises, albeit indirectly, is whether a monopolist in an industry characterized by network effects has an affirmative duty to license its code under terms enabling competition, regardless of its ownership of copyrights.

B. *Intel Corp.*

In contrast to Microsoft, which has left a trail of facially incriminating correspondence and disgruntled customers,²⁹ Intel has outwardly appeared to be a fairly benign monopolist, at least until recently. Unlike Microsoft, Intel seemed to understand that behavior that might be legal as a general rule may not be legal when engaged in by a monopolist. As might be expected, then, Intel’s antitrust troubles are a bit different from Microsoft’s. While the issues in the Intel case also involve contract and intellectual property rights, the case primarily revolves around charges that Intel used its market position, partly enabled by its intellectual property rights, to coerce others to license their patents to Intel.

29. See, e.g., *United States v. Microsoft Corp.*, No. 98-1232, ¶ 114 (D.D.C. filed May 18, 1998) (detailing messages of Microsoft employees about how “leveraging Windows” could help to ensure market share for Internet Explorer and thereby unseat Netscape); *id.* ¶ 110 (indicating that customers wanted to remove certain icons but Microsoft refused to grant permission); see also Ted Bridis, *Bill Gates Said to Deride Lawsuits*, ASSOCIATED PRESS, Nov. 11, 1998, available in 1998 WL 22417496 (discussing briefly government use of Microsoft e-mails to contradict statements made by Microsoft CEO Bill Gates); David Einstein, *Microsoft’s Antitrust Trial Puts E-mail at Center Stage*, AUSTIN AM.-STATESMAN, Nov. 9, 1998, at D7 (discussing DOJ prosecutors’ use of Microsoft’s e-mails in building their case).

1. The FTC Complaint

The FTC alleges:

Intel has entrenched, and threatens to continue entrenching, its monopoly power . . . by, among other things, denying or threatening to deny technical information about Intel microprocessor products to Intel customers who have developed and patented innovations in microprocessor technology, as a means of coercing those customers into licensing their innovations to Intel.³⁰

There is also some indication that the FTC is complaining about Intel's attempt to leverage its monopoly in the broader general-purpose microprocessor market into narrower markets contained therein.³¹ The complaint elaborates on these general charges by examining Intel's behavior with three of its customers to whom it had routinely provided advance technical information to help them design products incorporating Intel technology.³²

The first of these is Digital Equipment Corp. ("DEC"), a customer and competitor of Intel.³³ DEC manufactures its own microprocessors under the name Alpha.³⁴ The Alpha chip was reputed to be superior to Intel's microprocessor and presented a challenge to Intel's position as the only manufacturer marketing a chip running Microsoft's Windows NT operating system.³⁵ When "Intel introduced the Pentium Pro

30. Intel Complaint, *supra* note 3, ¶ 11.

31. *See id.* ¶ 4 (stating that "narrower markets may be contained within the market for general-purpose microprocessors"). This allegation is more fully developed in the private litigation described *infra* Part II.B.2.

32. *See id.* ¶ 12 (explaining that the early release of technical information benefits both Intel and its customers: "Intel's customers benefit because the advance technical information enables them to develop and introduce new computer products incorporating the latest microprocessor technology as early as possible, and Intel benefits because those customers design their new computer systems so as to incorporate, and effectively endorse, Intel's newest microprocessor products.").

33. *See id.* ¶¶ 16–17 (noting that sales of Intel-based computers represented roughly \$2 billion of DEC's 1997 revenue and that DEC has, in the recent past, spent about \$250 million per year on Intel microprocessors). Note that DEC has been purchased by Compaq, *see FTC Clears Compaq's Purchase of DEC*, L.A. TIMES, June 4, 1998, at D3 (stating that Compaq's \$9 billion acquisition of DEC was the largest in the industry's history and noting regulatory approval by the European Commission and FTC).

34. *See Intel Complaint, supra* note 3, ¶ 17.

35. *See id.* (labeling the Alpha "technologically significant . . . having performance

microprocessor, which closed some of the substantial performance gap between Intel's Pentium microprocessors and Digital's Alpha microprocessors," DEC examined the Pentium Pro and sued Intel for patent infringement.³⁶

Intel's response was to cut off DEC's access to advance technical information and prototypes. The FTC alleges that this and other conduct³⁷ "had a significant adverse impact on Digital's ability to develop and bring to market in a timely manner new computer systems based on Intel microprocessors, and would have posed an even more significant long-term threat to Digital's business if Digital had not agreed to license its microprocessor technology."³⁸ Apparently, the FTC believes that Intel was using its monopoly power, its control over DEC's supply of Intel microprocessors, and DEC's need for access to them and their technical details, to force DEC to grant it a patent license.

Intel treated another of its customers, Intergraph Corp., similarly. Intergraph is a manufacturer of computer workstations optimized for graphics.³⁹ Like DEC, Intergraph is a longstanding customer of Intel.⁴⁰ Intergraph had ceased manufacturing its own "Clipper" line of microprocessors in 1993, in favor of Intel's Pentium processor.⁴¹ As the complaint stated:

[In 1996,] Intel demanded a royalty-free license to Intergraph's Clipper microprocessor technology as a condition for Intergraph continuing to receive technical

superior to any of Intel's products in terms of accepted industry benchmarks for processor performance").

36. *Id.* ¶ 18 (noting that DEC alleged that Intel infringed ten of its patents).

37. This other conduct included "creat[ing] uncertainty about Digital's future source of supply of Intel microprocessors" and "engag[ing] in conduct to create a perception in the computer industry that Digital was no longer capable of bringing to market in a timely manner new computer system products that incorporate Intel's latest microprocessor technology." *Id.* ¶ 19.

38. *Id.* ¶ 21. In fact, under the parties' settlement of the patent litigation, Intel bought DEC's chip-making business. However, under an FTC consent order, DEC will license the Alpha technology to others besides Intel. See David Einstein, *Intel Cleared to Buy Digital's Chip Unit*, S.F. CHRON., Apr. 24, 1998, at C1.

39. See Intel Complaint, *supra* note 3, ¶ 22 ("Intergraph's flagship products are computer workstations designed for sophisticated graphics applications such as computer-aided design, computer-aided engineering, computer-aided manufacturing, computer-aided animation, and other computer graphics, multimedia and digital media functions.").

40. See *id.* ¶¶ 24-25 (describing Intergraph's relationship with Intel, which began in 1992).

41. See *id.* ¶¶ 23-24.

information that Intergraph required to continue developing Intel-based workstations in a timely and efficient manner. When Intergraph said it could not agree to such a demand, Intel refused to provide Intergraph with important information . . . contributing . . . to a significant delay of Intergraph's development.⁴²

When Intergraph began asserting its patents against some of Intel's customers, those customers turned to Intel for indemnification.⁴³ Despite increasing pressure by Intel, Intergraph continued to refuse to grant Intel a patent license and, allegedly in response, Intel

[c]ut off technical information that Intergraph needed; . . . [d]emanded return of microprocessor prototypes; . . . refused to supply additional prototypes[;] . . . [f]ailed to inform Intergraph of a bug Intel had previously discovered in an Intel chip[;] . . . [a]cted to create uncertainty about Intergraph's future source of supply of Intel microprocessors; and . . . engaged in conduct to create a perception in the computer industry that Intergraph was no longer capable of bringing to market in a timely manner new computer system products that incorporate Intel's latest microprocessor technology.⁴⁴

At approximately the same time, Intel had also begun competing with Intergraph in the market for microprocessor subsystems optimized for graphics.⁴⁵

42. *Id.* ¶¶ 26–27.

43. *See id.* ¶ 28.

44. *Id.* ¶ 29.

45. *See Intergraph Corp. v. Intel Corp.*, 3 F. Supp. 2d 1255, 1270 (N.D. Ala. 1998). The court described Intel's forays into the graphics market, and stated:

Intel has entered the graphics subsystem market . . . and is now a direct competitor of Intergraph in that market. Intel has recently signed an agreement to purchase Chips & Technology Company, an experienced and successful producer of graphics chips and chip sets. . . . Intel has also entered into a joint development relationship to form a company called Real 3D, Inc. to create 3D graphics technology. Intel has already incorporated graphics technology, called MMX, into its own CPUs. Intel has announced that its motherboard graphics subsystem will be available in early 1998.

Finally, the FTC complaint examined Intel's treatment of Compaq, which parallels its dealings with DEC and Intergraph. Like DEC and Intergraph, Compaq is an Intel customer⁴⁶ that began to assert its patent rights — in this case against a competing manufacturer called Packard Bell.⁴⁷ Intel intervened on Packard Bell's behalf because it supplied the allegedly infringing parts.⁴⁸ When Compaq asserted its patent rights, Intel withheld technical information.⁴⁹ Compaq, like DEC, eventually granted a patent license to Intel, which then resumed providing Compaq with the needed information.⁵⁰

The FTC alleges that this behavior constitutes “unlawful monopolization, unlawful attempts to monopolize, and unfair methods of competition all in violation of Section 5 of the Federal Trade Commission Act.”⁵¹ The major difference between the cases is that DEC and Compaq eventually acquiesced, granting Intel a patent license. Intergraph, in contrast, sued Intel and won a preliminary injunction, requiring that Intel provide it with technical data.⁵²

The FTC's complaint against Intel, while involving intellectual property, antitrust, and contract, has a different twist from the DOJ's complaint against Microsoft. Intel's conduct is less obviously anti-competitive because all three manufacturers are Intel customers. Severing relations with them would decrease Intel's revenue. Since DEC and Intergraph are also Intel's competitors, however, Intel may have found that eliminating or at least hampering that competition would be worthwhile, even if it were to suffer some lost sales as a result. In all three cases, though, Intel is using its patent rights as embodied in its microprocessors as a settlement weapon. Those patents helped Intel to a dominant market position. It is that position that has reinforced customer demand and given viability to any Intel threat to cut off its customers from access to its technical information or to the microprocessors themselves.

The complaint itself does not explicitly state that the technical information Intel was refusing to provide was protected by intellectual

Id.

46. See Intel Complaint, *supra* note 3, ¶ 33 (“Compaq is Intel's largest dollar and volume customer for microprocessor products, having purchased more than \$2 billion worth of Intel microprocessors during 1997.”).

47. See *id.* ¶ 34. Packard Bell is now part of NEC. See <<http://www.packardbell.com>>.

48. See Intel Complaint, *supra* note 3, ¶ 34.

49. See *id.* ¶ 35.

50. See *id.* ¶ 37.

51. *Id.* ¶ 42. See generally 15 U.S.C. § 45 (1994).

52. See *infra* Part II.B.2 (describing the *Intergraph Corp. v. Intel Corp.* case).

property rights. Intel's answer, however, makes it clear that one line of its defense will be that it was acting merely to protect such rights and that it has no affirmative duty to license those rights to others. For example, in addressing the allegations arising from its conduct with DEC, Intel states that "as a result of the lawsuit filed by Digital, Intel exercised its contractual and intellectual property rights to demand the return of certain advance confidential technical information and microprocessor prototypes and declined to give Digital advance access to certain confidential technical information and microprocessor prototypes."⁵³ Likewise, Intel acknowledged that it "declined to license certain of its own intellectual property to Intergraph and requested the return of certain microprocessor prototypes. Intel alleges that these actions were within Intel's contractual and intellectual property rights"⁵⁴ In its "Seventh Additional Defense," Intel makes the broad claim that it "has an absolute right to refuse to license or share its intellectual property, including confidential information."⁵⁵

Thus the answer, more clearly than the complaint, demonstrates that a court's definition of the relationship among antitrust, intellectual property, and contract may be outcome-determinative. For example, are there any limits imposed by antitrust law that would prevent Intel from terminating an intellectual property license under the terms of its contracts?

The FTC's complaint suggests that to safeguard innovation, it might be willing to limit the manner in which licensors exercise their contractual rights. Also, with reference to Intel's customers' patents, the FTC said:

Intel has engaged in exclusionary conduct by cutting off and threatening to cut off valuable commercial relationships with certain of its customers as a means of coercing licenses to their patent rights in rival microprocessor and related technologies. In each instance, Intel's conduct had a significant adverse effect on the ability of the targeted customer to develop and bring to market in a timely manner computer

53. Answer, *In re Intel Corp.*, No. 9288, ¶ 19 (filed July 13, 1998), available at <<http://www.ftc.gov/os/adjpro/d9288/index.htm>>. Intel further argued that its conduct was "protected by the First Amendment to the Constitution under the Noerr-Pennington doctrine." *Id.*

54. *Id.* ¶ 29 (arguing again that its conduct was "protected by the First Amendment of the Consitution under the Noerr-Pennington doctrine").

55. *Id.* at "Seventh Additional Defense."

systems based on Intel microprocessors, and would have posed a more significant long-term threat to the businesses of those customers if they had not agreed to license their technologies to Intel or, in the case of Intergraph, won an injunction against Intel's conduct. Because patent rights are an important means of promoting innovation, Intel's coercive tactics to force customers to license away such rights diminishes the incentives of any firm dependent on Intel to develop microprocessor-related technologies. Because most firms who own or are developing such technologies are vulnerable to retaliation from Intel, the natural and probable effect of Intel's conduct is to diminish the incentives of the industry to develop new and improved microprocessor and related technologies.⁵⁶

Thus, the FTC's analysis raises several questions. Can Intel entrench its monopoly position and, perhaps more importantly, discourage innovation?⁵⁷ Why should a company invest money in developing microprocessor improvements if it will have to license those improvements back to Intel or suffer being cut off from a vital source of supply? As one commentator says in labeling the FTC complaint "apparently the first antitrust challenge against what amounts to predatory patent infringement, backed up by coercive refusals to license industry-dominating intellectual property," the FTC, in defending the patent rights of Intel's customers rather than those of Intel itself, "is defending the patent system as a whole (and its policy goals) against one (allegedly) abusive patentee."⁵⁸ Viewed in this light, any conflict between antitrust and intellectual property law is illusory, as antitrust law vindicates the goals of patent law.

2. Intergraph Corp. v. Intel Corp.

The Intergraph portion of the FTC's complaint is based largely on the same conduct that had already prompted Intergraph to sue Intel. In 1997, Intergraph Corp. filed suit against Intel in a substantively wide-ranging twenty-three-count complaint that included "three claims for

56. Intel Complaint, *supra* note 3, ¶ 39.

57. *See id.*

58. Richard H. Stern, *Refusals to License Intellectual Property Rights and Monopoly "Leverage,"* 20 EUR. INTEL. PROP. REV. 390, 395 (1998).

patent infringement and a single count charging anti-trust violations under [sections 1 and 2 of the Sherman Act].”⁵⁹ In April, 1998, the district court entered a preliminary injunction ordering Intel to

supply Intergraph with all Intel product information . . . as needed for support [of its] products[;] supply Intergraph with an allocation . . . of microprocessors[;] . . . include Intergraph as ‘an active member of the Intel Inside program[;]’ [and] . . . provide Intergraph ‘marketing involvement’ and include it in ‘new product introduction events’ of the type in which Intel includes Intergraph’s similarly situated [c]ompetitors.⁶⁰

Because the order and its accompanying opinion were issued at the preliminary injunction stage, they have limited value in predicting either the eventual outcome of the suit or the court’s view of the law. Nevertheless, the opinion is interesting for its statements on innovation, permissible uses of intellectual property, essential facilities, and the contract doctrine of unconscionability.

The court began with the premise that Intel’s “‘closed architecture,’ for practical purposes, allows Intel, by exercising its intellectual property rights . . . [, given market barriers to entry,] to wield absolute power over who will and who will not be allowed to participate in that part of the high-end computer industry that is based upon the ‘x86’ microprocessor,” leaving Intergraph “technologically and financially locked in to the Intel CPU . . . [with] no feasible alternative to it.”⁶¹ This seemed all the more offensive to the court because Intergraph had, at one time, successfully competed with Intel in the market niche for high-end graphics subsystems until Intel “induced” Intergraph to cease development and production of its own technology called “Clipper.”⁶²

59. *Intergraph Corp. v. Intel Corp.*, 3 F. Supp. 2d 1255, 1258 (N.D. Ala. 1998). The complaint included “claims under state law theories of fraud, fraudulent suppression, negligent failure to warn, negligence, wantonness and willfulness, breach of contract, intentional interference with business relationships, breach of express warranty, breach of implied warranty of fitness for a particular purpose, and violation of the Alabama Trade Secrets Act.” *Id.*

60. *Id.* at 1291–93.

61. *Id.* at 1262 (noting that the investment necessary to compete with Intel is prohibitively expensive).

62. *See id.* at 1265 (stating that Intergraph had originally marketed chips based on its own “Clipper” technology); *see also supra* Part II.B.1 (describing the relationship between Intel and Intergraph).

In the court's words, "the cessation of further development of the Clipper technology may well have diminished further innovation and competition generally because no further efforts were made to improve or advance the Clipper CPU technology."⁶³ The court had no trouble concluding that Intel's market share, the lock-in effect, the network effects of Intel's large installed base, and strong customer loyalty to the Intel brand established Intel's monopoly power.⁶⁴

Additionally, the court was concerned by the possibility that Intel might leverage its monopoly power into other markets. Intel's failure to provide technical information allegedly hampered Intergraph's ability to compete in the graphics subsystem market, which Intel had only recently entered.⁶⁵ "The effect of Intel's conduct may be to leverage its monopoly in the 'x86' CPU market and to create a monopoly power in the graphics subsystem market."⁶⁶

The court went on to adopt explicitly an essential-facilities rationale to justify ordering Intel to provide Intergraph with information necessary for Intergraph to compete.

The antitrust laws impose on firms controlling an essential facility the obligation to make the facility available on non-discriminatory terms. . . . Intel's advanced CPUs and Intel's technical information are "essential" if they are vital to competitive viability and competitors cannot effectively compete in the relevant market without access to them. . . . Reasonable and timely access to critical business information that is necessary to compete is an essential facility. . . . Furthermore, a monopolist's unilateral refusal to deal

63. *Intergraph*, 3 F. Supp. 2d at 1265.

64. *See id.* at 1275-76.

65. *See supra* note 45 (describing Intel's entry into the graphics subsystem market).

66. *Intergraph*, 3 F. Supp. 2d at 1270-71. The court later elaborated further, stating that Intel's "discriminatory and favored agreements and understandings with some of Intergraph's competitors" contributed to Intel's attempt to "leverage its monopoly power in the 'x86' CPU market to prevent Intergraph from competing in the graphics subsystem and workstation markets." *Id.* at 1272. These claims are not well-defined. It is unclear what the "graphics subsystem" and "workstation" markets are and how they relate to the microprocessor market. Based on the FTC's reference to "narrower markets . . . within the market for general-purpose microprocessors," *see supra* note 31, and the *Intergraph* court's description of Intel's entry into the graphics subsystem market, *see supra* note 45, this Article assumes that the graphics subsystem market refers to microprocessors optimized for graphics rather than for the computer systems that incorporate such microprocessors.

violates § 2 of the Sherman Act where such conduct unreasonably handicaps competitors or harms competition. . . . [Accordingly, the court concludes that] Intel's refusal to supply advanced CPUs and essential technical information to Intergraph likely violates § 2 of the Sherman Act, because they are not available from alternative sources and cannot be feasibly duplicated, and because competitors cannot effectively compete in the relevant markets without access to them. Moreover, the court concludes that Intel has no legitimate business reason to refuse to deal with Intergraph. Intergraph has been a loyal and beneficial customer of Intel. The dispute over Intergraph's patent claims could be resolved separately without Intel denying Intergraph the essential CPUs and technical information it needs⁶⁷

The court concluded that Intel was likely to be liable under the monopoly leveraging complaint as it had entered the graphics subsystem market and had planned to expand its presence there while handicapping Intergraph's ability to compete in the same market by withholding technical information.⁶⁸

The fact that Intel owns patents in its technology did not move the court since "[a] monopolist cannot use the pretext of protecting intellectual property in order to violate the antitrust laws."⁶⁹ A unilateral refusal to license may constitute exclusionary conduct sufficient to maintain a monopolization claim, and the ownership of an intellectual property right "can give rise to liability if a seller exploits his dominant position in one market to expand his empire into the next."⁷⁰

In challenging the preliminary injunction, Intel has argued that the district court misread the relevant precedent that "absolutely protect[s] an intellectual property owner's unilateral right to deny access or rights to that intellectual property."⁷¹ According to Intel, "[e]ven a purported

67. *Intergraph*, 3 F. Supp. 2d at 1277–78.

68. *See id.* at 1278–79.

69. *Id.* at 1279.

70. *Id.* at 1278 (quoting *Eastman Kodak Co. v. Image Technical Servs.*, 504 U.S. 451, 479 n.29 (1992), which quoted *Times-Picayune Publ'g Co. v. United States*, 345 U.S. 594, 611 (1953)).

71. Brief for Appellant at 25, *Intergraph Corp. v. Intel Corp.*, 3 F. Supp. 2d 1255 (N.D. Ala. 1998) (No. 97-N-3023-NE). Intel also argued in the alternative that it should have been given the benefit of a rebuttable presumption that its refusal to license was

monopolist controlling an essential facility has no obligation to sell its patented goods [or] divulge its copyrighted materials.”⁷²

Antitrust-type considerations also factored into the court’s holding that the at-will termination clauses in the parties’ Non-Disclosure Agreements were, alternatively, unconscionable at the time of contracting or operated in an unconscionable manner.⁷³ While the court did not equate unconscionability with a violation of the antitrust laws, it stated:

[W]hile the termination provision was available to both parties, Intergraph had no suitable alternatives and, in a practical sense, had no real option to exercise its right to terminate. . . . Intel was the sole source of [the product] necessary for Intergraph to stay in business Intel had a greatly disproportionate bargaining power that enabled it to impose terms . . . that benefitted it, to the detriment of Intergraph.⁷⁴

Thus, the same monopoly power that contributed to the antitrust holding under the essential facilities doctrine also played a role in holding the contractual clauses unconscionable.⁷⁵

The Intel litigation raises several interesting questions. For example, should an antitrust doctrine such as essential facilities be used to compel Intel to deal with others even though intellectual property law generally stands for the proposition that a right-holder may refuse to deal with any or all parties? Does antitrust law forbid Intel from forcing agreement to

lawful. *See id.* at 26.

72. *Id.* at 15.

73. *See Intergraph*, 3 F. Supp. 2d at 1283. The court also found that a contract had been formed by the parties’ correspondence, including a letter from Intel that contained certain assurances. *See id.* at 1282 (finding a letter agreement and “surrounding circumstances constitute . . . an enforceable agreement of definite duration”).

74. *Id.* at 1285 (noting that (1) Intel only required agreement to the termination provision after Intergraph ceased developing its own microprocessor and became dependent on Intel and (2) there was no usage of trade in the industry demonstrating that such termination provisions were needed).

75. In the alternative, the court held that even if the clause was not unconscionable at the time at which it was entered into, it operated in an unconscionable manner, running afoul of Alabama law, which provides that a termination “agreement dispensing with notification of termination is invalid if its operation would be unconscionable.” *Id.* (quoting Ala. Code § 7-2-309(3) (1997)). In so holding, the court emphasized Intel’s market share, the lack of an alternative supplier for Intergraph, and its resulting inability to compete when Intel terminated the Non-Disclosure Agreements. *See id.*

restrictive terms as a condition of access to intellectual property? Finally, the Intel litigation also raises the question of the relationship between antitrust and contract law. Should contract law more closely scrutinize particular provisions when one side controls a significant portion of the market?

C. *Microsoft and Intel — Their Similarities and Differences*

The Microsoft and Intel litigation differ to the extent that the companies' businesses and their behaviors in conducting those businesses differ. Microsoft's primary product is software while Intel's is hardware. While these are generally complementary products (software cannot work without hardware and vice versa), the hardware and software markets are different. Moreover, the intellectual property rights involved in the litigation are different as *Microsoft* implicates copyright and *Intel* primarily patent. The nature and tone of the complaints also differs.

The DOJ's complaint against Microsoft is rather restrained. The DOJ is not trying to dislodge Microsoft's monopoly in the operating system market but seeks primarily to restrain its behavior in maintaining that monopoly and attempting to project it into markets for complementary products. The complaint states fairly conventional causes of action and seeks traditional antitrust remedies.⁷⁶ The DOJ, unlike the FTC and Intergraph, is not seeking to require Microsoft to divulge advance technical information on an ongoing basis to assist competitors, or to curb restrictions on the terms under which it will share such advance information.⁷⁷

Perhaps the most controversial parts of the case from a copyright perspective are the allegations regarding the boot-up screen and the tying claim. The remedies the DOJ seeks would require Microsoft either to change its copyrighted software or allow others to do so. The most expansive language in the court's opinion addressing Microsoft's motion for summary judgment arose in dealing with these issues and suggests that, in certain circumstances, a monopolist may have a duty to deal. This duty may not be a general obligation to deal with everyone who approaches asking for a license. Rather, if the monopolist *does choose*

76. See *United States v. Microsoft Corp.*, No 98-1232 (D.D.C. filed May 18, 1998) ¶¶ 129–141.

77. See Stern, *supra* note 58, at 390–91 (noting that the FTC's case against Intel raises questions about practices that the DOJ did not challenge in the Microsoft case and identifying one such practice as “depriving other parties of needed technical information unless they will comply with restrictive demands”).

to license, it must do so under terms enabling competition, possibly including terms allowing modification.

In *Microsoft*, the operating system is essentially an input into the vertically-related downstream market for applications software in which Microsoft also competes. The allegation is that Microsoft's restrictive practices enable it to gain a foothold in this second market. In contrast, in the Intel litigation, the technical information and microprocessors are inputs into the downstream market for computer systems such as workstations. Intel does not compete in this market. The allegation — more explicit in *Intergraph* than in the FTC complaint — is that Intel is trying to expand its monopoly to encompass the graphics subsystems market, a niche market within the broader microprocessor market.⁷⁸ Intel still would not be competing in the market for systems incorporating such microprocessors but could become the dominant supplier of the microprocessors themselves, leaving manufacturers of such systems, such as Intergraph, dependent upon Intel for their graphics subsystems supply to be incorporated into their end products. Moreover, if Intel is allowed to use its monopoly to expand into such niche markets, by demanding patent licenses from would-be competitors in those markets, innovation may be discouraged. Companies who might otherwise invest in microprocessor improvements will have no incentive to do so if Intel can force them to grant access to such improvements.

The Intel litigation thus is more explicit about safeguarding incentives to innovate than *Microsoft*, although, certainly, *Microsoft* could be understood as aimed at encouraging innovation in the applications software market. The Intel cases seem also to be more about essential facilities and a unilateral refusal to deal than *Microsoft*. The problem in the Intel litigation is Intel's refusal to provide technical information; in *Microsoft*, the concern is not so much with Microsoft's refusal to deal but rather its refusal to do so except under restrictive terms. The two cases, then, have an opportunity to instruct on not just when a monopolist may refuse to deal but also on under what terms a monopolist may deal.⁷⁹ The cases, though, do seem to come together where intellectual property and antitrust intersect with contract law. In both cases, the issue of how to interpret contracts against a backdrop of one party's market dominance may be of critical importance, despite the fact that only *Intergraph* emphasizes the issue.

78. At least this *appears* to be the complaint. The markets involved in the leveraging complaint are not well-defined. *See supra* note 66.

79. The cases also raise different leveraging concerns — leveraging *across* markets as in *Microsoft* versus ostensibly leveraging *within* markets as in the Intel litigation. An analysis of these differences is beyond the scope of this Article.

III. POSING THE POLICY QUESTIONS AND FORMING A RESEARCH AGENDA TO INTEGRATE INTELLECTUAL PROPERTY AND ANTITRUST

These issues — whether antitrust law may impose a duty to license an intellectual property right on a monopolist and whether antitrust law may limit the terms of a monopolist's license that relate to its intellectual property rights — are difficult ones. Given that the factual circumstances under which such claims are likely to arise will vary, it is doubly difficult to propose a coherent manner in which to integrate intellectual property and antitrust. This Article does not attempt to do so. Rather, here it conducts a brief survey of the leading cases bearing directly on the issues to help identify the relevant policy questions and factors that should be considered in answering those questions.

A. Unilateral Refusals to License or Sell Products Protected by Intellectual Property Rights: Four Cases in Search of a Paradigm

In 1994, the First Circuit decided *Data General Corp. v. Grumman Systems Support Corp.*⁸⁰ In the case, Grumman, who competed with Data General in servicing Data General-manufactured computers, alleged that Data General willfully maintained a monopoly in the market for servicing computers in violation of section 2 of the Sherman Act.⁸¹ The court stated that to sustain such a claim, Grumman had to demonstrate not just that Data General possessed monopoly power in the relevant market, but also that it maintained that power through exclusionary conduct lacking a legitimate business justification.⁸² The alleged exclusionary conduct consisted of Data General's "refusal to license [its diagnostic software] to anyone other than qualified self-maintainers . . . and refusal to provide other service tools directly to [third-party maintainers]."⁸³

The court analyzed the relationship between the intellectual property and antitrust laws. It ultimately concluded that "while exclusionary conduct can include a monopolist's unilateral refusal to license a copyright, an author's desire to exclude others from use of its copyrighted work is a presumptively valid business justification for any

80. 36 F.3d 1147 (1st Cir. 1994).

81. *See id.* at 1181.

82. *See id.*

83. *Id.* at 1182.

immediate harm to consumers.”⁸⁴ It is unclear what conduct would overcome this presumption, although the court seemed to suggest that either unlawful acquisition of a copyright or harm to consumers might suffice.⁸⁵ The court, however, noted that even though Data General had refused to sell schematics to assist third party maintainers and the diagrams were not available from other sources, that refusal did not constitute exclusionary conduct as “[e]ven a monopolist . . . ‘may normally keep its innovations secret from its rivals as long as it wishes.’”⁸⁶

In adopting the presumption, the court considered the policies of antitrust and intellectual property law, including patent. The court hinted that it might consider patent and copyright to relate to antitrust differently, stating:

[A] monopolist’s refusal to license others to use a commercially successful patented idea is likely to have more profound anti-competitive consequences than a refusal to allow others to duplicate the copyrighted expression of an unpatented idea (although such differences may become less pronounced if copyright law becomes increasingly protective of intellectual property such as computer software). But by no means is a monopolist’s refusal to license a copyright entirely “pro-competitive” within the ordinary economic framework of the Sherman Act.⁸⁷

The court also implied that the markets that antitrust law and copyright seek to protect are different. Rather than elaborating on the manner in which these markets differ in their definitions, however, the court focused on timing issues. “Antitrust law generally seeks to punish and prevent harm to consumers in particular markets, with a focus on relatively specific time periods,” but “in a particular market and for a

84. *Id.* at 1187.

85. *See id.* at 1188–89 (stating that there did not appear to be any grounds under which Grumman could overcome the presumption as there was “no evidence that [Data General] acquired its . . . copyrights in any unlawful manner” and noting that the software at issue increased efficiency and benefited consumers). In particular, Grumman’s argument that Data General had previously dealt with it on less restrictive terms failed to overcome the presumption. *See id.* at 1188.

86. *Id.* at 1189 (quoting *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 281 (2d Cir. 1979)).

87. *Id.* at 1185.

particular period of time, the Copyright Act tolerates behavior that may harm both consumers and competitors.”⁸⁸ Thus, “it may not be appropriate to judge the effect of the use of a copyright by looking only at one market or one time period” — the traditional antitrust approach.⁸⁹

The Ninth Circuit, in *Image Technical Services, Inc. v. Eastman Kodak Co.*, essentially adopted the First Circuit’s approach in *Data General* in upholding a monopolization verdict against Kodak.⁹⁰ In the case, plaintiff Independent Service Organizations (“ISOs”), including the named plaintiff, Image Technical Services, complained that Kodak was leveraging its monopoly in the market for Kodak photocopiers and parts into the market for equipment service.⁹¹ The complaint stemmed from Kodak’s increasingly restrictive policy regarding the provision of parts to ISOs.⁹²

The court attempted to clarify the law by reviewing the cases regarding unilateral refusals to deal and rejecting the theory that a monopolist may only be liable for a refusal to deal when such refusal relates to an “essential facility” as that term is defined under antitrust law.⁹³ The court then framed the issue as “determin[ing] the significance of a monopolist’s unilateral refusal to sell or license a patented or copyrighted product in the context of a § 2 monopolization claim based on monopoly leveraging. This is a question of first impression.”⁹⁴

The Ninth Circuit elaborated on a theme indirectly alluded to in *Data General*, noting that “[m]uch depends . . . on the definition of the patent grant and the relevant market.”⁹⁵ As the court noted, the patent does not give its holder a right to extend its monopoly to markets not claimed by the patent.⁹⁶ The potential conflict between antitrust and intellectual property arises because the statutes each define the relevant markets differently:

The relevant market for determining the patent or copyright grant is determined under patent or copyright

88. *Id.* at 1184–85.

89. *Id.* at 1184.

90. 125 F.3d 1195 (9th Cir. 1997), *cert. denied*, 118 S.Ct. 1560 (1998).

91. *See id.* at 1200.

92. *See id.* at 1200–01 (explaining that Kodak stopped selling parts as other service providers became more competitive).

93. *See id.* at 1209–11 (“Kodak’s challenge raises a novel issue: Whether a monopolist is liable under § 2 of the Sherman Act for an anticompetitive refusal to deal only under an ‘essential facilities’ theory. . . . [W]e reject this theory.”).

94. *Id.* at 1214.

95. *Id.* at 1216.

96. *See id.* (noting that the right to exclude is a limited one).

law. The relevant markets for antitrust purposes are determined by examining economic conditions. . . . [Kodak p]arts and service here have been proven separate markets in the antitrust context, but this does not resolve the question whether the service market falls “reasonably within the patent [or copyright] grant” for the purpose of determining the extent of the exclusive rights conveyed. These are separate questions that may result in contrary answers. At the border of intellectual property monopolies and antitrust markets lies a field of dissonance yet to be harmonized by statute or the Supreme Court.⁹⁷

The court contended that unilateral refusals to deal under section 2 strike at the heart of the intellectual property right to exclude.⁹⁸ The court, concerned that complaints based on unilateral conduct would proliferate (since unilateral conduct occurs daily and the party engaging in such conduct often possesses monopoly power through its intellectual property rights), adopted a version of the *Data General* test as a reasonable accommodation between the goals of intellectual property and antitrust law.⁹⁹ The difference between the *Data General* and *Kodak* presumptions seems primarily to relate to how those presumptions may be rebutted. The *Kodak* court, unlike that in *Data General*, explicitly stated that “[t]he presumption may . . . be rebutted by evidence of pretext.”¹⁰⁰ A monopolist’s refusal to license motivated by a desire to protect intellectual property rights is permissible, while a refusal based on another reason may be merely “pretextual” and sufficient to rebut the presumption of legitimacy.¹⁰¹

97. *Id.* at 1216–17 (second alteration in original) (citations omitted) (quoting *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 708–709 (Fed. Cir. 1992)).

98. *See id.* (comparing sections 1 and 2 of the Sherman Act and explaining that because concerted action is required to sustain a section 1 violation, that section does not threaten the “core right of exclusion” in the same way that a section 2 claim based on unilateral conduct would).

99. *See id.* at 1217–18 (noting that if left unbounded, claims based on unilateral conduct would likely multiply to an unmanageable number, potentially decreasing the value of an intellectual property right and thereby defeating the entire incentive scheme of the federal statutes).

100. *Id.* at 1219.

101. *See id.* at 1219–20 (noting that Kodak did not consider its patents when it began its restrictive parts policy and that the policy did not distinguish between patented and unpatented parts, undercutting any argument that the policy was intended primarily to protect Kodak’s intellectual property rights rather than to harm competitors).

The United States District Court for the District of Kansas rejected both *Data General* and *Kodak* in *In re Independent Service Organizations Antitrust Litigation* (“CSU”).¹⁰² In *CSU*, Xerox Corp. had progressively tightened restrictions on the sale of parts for its products to ISOs.¹⁰³ CSU, L.L.C., one of the ISOs, claimed that Xerox unlawfully monopolized the relevant markets through exclusionary conduct consisting of its refusal to sell its patented and copyrighted products.¹⁰⁴ The court found fault with the Ninth Circuit’s opinion in *Kodak* on a number of grounds.

First, it discussed the distinction between intellectual property and antitrust markets, stating that “the scope of a ‘patent monopoly’ is defined by the claims of the patent,” while the economic monopoly with which antitrust is concerned “refers to a firm’s power to control the price of a product in a properly defined relevant antitrust market.”¹⁰⁵ The court contended that the Ninth Circuit had simply erred by assuming that a patent cannot lawfully reach across two or more antitrust markets:

We believe that a patent holder can lawfully acquire more than one . . . “economic” monopoly by exercising the exclusionary power of a single patent. The court is not aware of any patent which states that it confers a monopoly in a particular antitrust market. Patents only claim inventions. Because each use of that invention may be prevented by the patent holder, the patent may have some anticompetitive effect in each market in which it is used or not used.¹⁰⁶

To forbid the patentholder from exercising its patent rights in more than one antitrust market would fundamentally frustrate the incentive scheme of patent law.¹⁰⁷

Moreover, the court was particularly critical of the *Kodak* test, finding it to be wholly unworkable. “The standard articulated . . . in

102. 989 F. Supp. 1131 (D. Kan. 1997).

103. *See id.* at 1133 (describing Xerox’s various “parts policies,” which became more restrictive over time).

104. *See id.* at 1133–34 (explaining that ISOs had brought suit in a class action in Texas but that CSU had opted out).

105. *Id.* at 1135.

106. *Id.* at 1136.

107. *See id.* at 1138 (arguing that the bargain struck by the Patent Act is “outside of the antitrust laws” (quoting *Chisholm-Ryder Co. v. Mecca Bros.*, 217 U.S.P.Q. (BNA) 1322, 1338 (W.D.N.Y. 1982))).

Kodak makes it very difficult for a jury, a judge, or even the patent holder, to distinguish between a permissible [and an impermissible] refusal to deal.”¹⁰⁸ The court noted that the Kodak “pretext” test “read[s] the right to exclude out of the patent statute.”¹⁰⁹ The court thus held that the refusal to license at issue was sheltered by patent law and could not be challenged under antitrust.¹¹⁰ It additionally rejected the argument that Xerox’s other exclusionary conduct could be factored in to render the otherwise legitimate refusal to deal unlawful.¹¹¹ The “refusal to license is expressly authorized by patent law and therefore immune from antitrust scrutiny.”¹¹² Finally, the court held that the same reasoning applied in the patent context equally sheltered a refusal to license a copyright.¹¹³

The fourth case in the quartet, *Intergraph Corp. v. Intel Corp.*,¹¹⁴ has already been discussed. *Intergraph* added another wrinkle to the already murky analysis by grounding its decision on the essential facilities doctrine. Under that doctrine, a monopolist who controls the gateway to a second market may be required to grant competitors access to that market.

MCI Communications Corp. v. American Telephone & Telegraph Co. is often cited as the case setting forth the requirements for an essential facilities claim: “(1) control of the essential facility by a monopolist; (2) a competitor’s inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility.”¹¹⁵ The doctrine apparently applies to both single and multi-firm conduct.¹¹⁶

108. *Id.* at 1141.

109. *Id.* (arguing that a “self-serving memorandum in the files . . . which states that the company is refusing to license its products because they are patented, apparently could be sufficient to protect the company’s refusal to deal from antitrust scrutiny,” while a memo that indicates the company wants to exclude competitors or gain a competitive advantage would trigger antitrust liability despite the fact that the actual conduct and marketplace result would likely be the same in both cases).

110. *See id.* (holding that to escape antitrust liability, a patent holder need not show a legitimate business justification for a refusal to license or sell the patented invention).

111. *See id.* (rejecting CSU’s argument that “otherwise lawful conduct, when combined with unlawful acts pursuant to a scheme to monopolize, may violate Section 2 of the Sherman Act”).

112. *Id.*

113. *See id.* at 1143 (noting that the principles behind the two statutory schemes are the same, justifying similar treatment).

114. *See supra* Part II.B.2.

115. 708 F.2d 1081, 1132–33 (7th Cir. 1982).

116. *See* Phillip Areeda, *Essential Facilities: An Epithet in Need of Limiting Principles*, 58 ANTITRUST L.J. 841 (1989) (analyzing essential facilities arguments in

Intergraph appears to be the first case to label information protected by intellectual property rights an “essential facility” and in effect to impose a compulsory license, by obligating Intel to grant access to that information.

Collectively, *Data General*, *Kodak*, and *Intergraph* indicate that a monopolist may be held liable for a unilateral refusal to license an intellectual property right. *CSU*, on the other hand, is quite different. It grants an absolute immunity to the rightholder from antitrust liability for a refusal to deal even as part of a scheme to monopolize involving other conduct.

B. The Policy Questions in the Unilateral Refusal to Deal Context

The four cases just discussed all grapple with the question of when a monopolist may refuse to license or sell its protected product. Because they conflict, they are particularly helpful in identifying relevant policy considerations that, in turn, help to set the research agenda for resolving this question.

First, from a policy perspective, it is important to understand the differing orientations of intellectual property law and antitrust law. As noted at the outset, both sets of laws are seemingly in harmony because each has the ultimate goal of enhancing consumer welfare by increasing innovation.¹¹⁷ Blithely to assume that therefore there may be no conflict between them, however, is to ignore that antitrust and intellectual property use quite different means in attempting to achieve their respective ends. Antitrust law seeks to encourage innovation by safeguarding the competitive process; intellectual property grants exclusive rights that protect against the same competition antitrust was meant to foster.

These different approaches emphasize different factors. As the *Kodak* and *CSU* cases noted, intellectual property and antitrust markets are not necessarily the same. The first question then is how to define the markets to which an intellectual property right extends. If an intellectual property right encompasses a specific market, antitrust should grant it wide latitude. *CSU* suggests that the only limiting factors defining the markets to which an intellectual property right extends are a patent’s claims and a copyright’s expression. The patent or copyright holder is entitled to exercise her monopoly in any market, however remote from the one in which she originally intended to exercise her right.

single and multi-firm settings).

117. See *supra* notes 7–8 and accompanying text.

The *CSU* approach recognizes the reality that very often, the inventor or author does not know at the time she decides to make her investment exactly in what markets the resulting invention or work will be used. The *ex ante* guarantee that all possible uses will be protected by intellectual property rights safeguards the incentive to create embodied in the intellectual property statutes.

But does it safeguard that incentive too much — at the expense of other innovation that would have taken place had the patent and copyright scope not been interpreted to cover all possible markets, however remote from the primary one? Allowing the intellectual property right to extend to *too many* markets may discourage second-comers from investing by preventing them from building freely on prior work. The overall store of knowledge may thus be decreased rather than increased by too broad an interpretation of the intellectual property right.

Reasonable minds may differ on the appropriate markets to which an intellectual property monopoly extends, though those same minds agree on the overall goals of the system. Reconciling this difference of opinion calls for further research. Researchers could survey different firms to determine what considerations drive their investment decisions and how different market definitions would affect those decisions. This research will be problematic — measuring innovation is difficult and measuring innovation foregone is virtually impossible. Still, it is preferable to gather some empirical information rather than simply to debate the issue based on intuition.

The market definition question raises another issue. The courts have uniformly accorded patent and copyright the same treatment in assessing unilateral refusals to deal. However, copyright and patent differ in their respective approaches to promoting innovation. The threshold requirements for copyright protection are minimal, and the exclusive rights, while not very broad, endure for a long time.¹¹⁸ In contrast, while patent rights endure for a much shorter time than copyright, the statutory requirements for protection are much more demanding and the rights correspondingly much broader, offering protection against even independent creation that copyright does not.¹¹⁹ As the *Data General*

118. "Copyright protection subsists . . . in original works of authorship fixed in any tangible medium of expression," 17 U.S.C. § 102 (1994) — not a stringent standard for protection. The term of a copyright is generally life of the author plus 70 years. See Sonny Bono Copyright Term Extension Act, Pub. L. No. 105-298, 112 Stat. 2827 (1998) (codified as amended in scattered sections of 17 U.S.C.). See *supra* note 6 for a summary of the exclusive rights.

119. A patent is granted only to those inventions that are new, useful, non-obvious, and described in an enabling disclosure. See 35 U.S.C. §§ 102–103, 112 (1994). A

court noted, the effect on competition from the refusal to license a copyright is likely to be less severe than the effect from refusal to license a patent.

It may be perfectly appropriate to apply a uniform standard to the two systems, but courts should be careful not to assume automatically that the same conclusions are appropriate under both doctrines. Moreover, any empirical investigation into incentives must be carefully designed to avoid extrapolating conclusions applicable to one set of laws to the other — the incentive structures are simply not the same.

Policymakers must not focus solely on market definition but also should examine how intellectual property law has historically dealt with antitrust-type concerns. Intellectual property law, by granting *limited* exclusive rights, has always, at least implicitly, acknowledged that the grant of a monopoly is a second-best solution. In other words, by correcting market imperfections that may lead to the underproduction of information, intellectual property law introduces its own inefficiencies by enabling monopoly. In recognition of this fact, the statutes grant circumscribed rights for limited times to innovation that meets statutory standards.

Additionally, other statutory and common law doctrines place limitations on the manner in which the exclusive intellectual property rights may be exercised. For example, the copyright fair use doctrine excuses conduct that otherwise would be infringing, in order to protect the public interest in maintaining the free flow of information.¹²⁰ Also, the common law doctrine of misuse that applies to both copyright and patent has been used to prevent the intellectual property right holder from extending her right beyond what the statutes intend.

Most courts have declared that the misuse defense does not require proof of an antitrust violation. . . . [N]either proof of market power, nor competitive injury is necessary to prove misuse. . . . [T]he defendant in a misuse claim must prove only that the plaintiff

patent extends for a period of 20 years from the date of its filing. *See* 35 U.S.C. § 154(a)(2) (1994). The requirements for patent protection are thus more stringent than those for copyright and the length of the exclusive right is shorter. However, the patent right is much broader than the exclusive rights under copyright. *See, e.g., supra* note 6 (describing the exclusive rights).

120. *See* 17 U.S.C. § 107 (1994) (listing four factors a court may use in considering whether an infringement may be excused as “fair”).

extended his property right beyond the patent or copyright.¹²¹

Certainly then, one question policymakers should address is whether antitrust is even needed as an additional check on the exercise of intellectual property rights. In particular, they should research the misuse cases to determine whether a clarification or codification of the principles revealed therein would sufficiently clarify the antitrust and intellectual property border. The misuse cases might also prove helpful in assessing restrictive license provisions. They would prove less helpful, however, where there is simply a refusal to deal — not so much a “misuse” as a “non-use.”

In the same way that policymakers should research intellectual property law, they should also sort through antitrust law. In particular, they should consider whether courts are properly defining markets in antitrust litigation. For example, is the appropriate market in the *Intel* case the market for Intel CPUs, for Intel and Intel-compatible CPUs, or for CPUs generally? The broader the market definition, the less likely that the antitrust and intellectual property markets will conflict. The narrower the market definition, the more likely the intellectual property market will extend beyond the antitrust market, setting up a conflict between the two sets of laws.

Additionally, policymakers should attempt to clarify antitrust law on unilateral refusals to deal. Such law is currently murky at best. As the *Kodak* court noted, ostensibly, a court may hold a party liable for a unilateral refusal to deal under general principles or under the more focused doctrine of essential facilities. While the latter doctrine’s elements are fairly well defined, other refusal-to-deal cases are inconsistent. Policymakers should review these cases and try to extract some coherent standard that courts could apply.

They should also grapple with the question raised by *CSU*. The court there gave an immunity to the refusal to license even though there was other exclusionary conduct that, when taken in context with the refusal to license, seemed to indicate some intent to monopolize. Is this a correct approach? If the refusal to license is part of a scheme to monopolize, should it not be enjoined? In other words, are the facts not important? If the refusal to deal is part of an overall pattern of exclusionary conduct, would there be any damage done to the incentives of the intellectual property system if antitrust law required the grant of

121. Marshall Leaffer, *Engineering Competitive Policy and Copyright Misuse*, 19 U. DAYTON L. REV. 1087, 1099–1100 (1994).

a license? If the precedent were tied to the particular facts, it would seem unlikely.

Finally, one issue alluded to at the outset of the Article, but abandoned since, is whether the existence of network effects influences where the boundary between intellectual property and antitrust is set. Both Microsoft's PC operating systems market and Intel's microprocessor market are characterized by network effects that reinforce a tendency toward natural monopoly. An industry that can efficiently support only one producer is a natural monopoly.¹²² Natural monopolies are generally characterized by high fixed costs and low marginal costs, resulting in an unusual demand curve in which average total cost declines.¹²³ The markets for PC operating systems and microprocessors bear some characteristics of natural monopolies. Both have high fixed costs, although the start-up costs in hardware are much greater than in software.¹²⁴ In comparison, the marginal cost to produce one more copy of a program or one more chip is relatively low. The barriers to entry are reinforced through network effects generated by demands for interoperability and compatibility and by intellectual property rights that prevent competitors from simply copying another's work or infringing a microprocessor patent.¹²⁵

This tendency towards natural monopoly makes the essential facilities doctrine particularly attractive since it arose and is used primarily in that context. However, as Professors Lemley and McGowan note in the context of software, while the network standardization effects in software markets generate results similar to those of a natural monopoly, the software industry is not, in fact, a true natural monopoly. While start-up costs for a software firm are greater than marginal costs, historically they have been low enough so that developers have been able to attract financing, suggesting that barriers to entry may not be so high as to deter entry and innovation.¹²⁶ Professor

122. See Mark A. Lemley, *Antitrust and the Internet Standardization Problem*, 28 CONN.L.REV. 1041, 1054 (1996) (defining "natural monopoly" as an industry "in which the optimal number of firms is one").

123. See *id.* at 1054–55 (stating the textual proposition and explaining why competition in such markets leads to a single firm structure).

124. See *supra* note 10 (citing the *Microsoft* and *Intel* complaints' statements regarding barriers to entry).

125. See Teague I. Donahey, *Terminal Railroad Revisited: Using the Essential Facilities Doctrine to Ensure Accessibility to Internet Software Standards*, 25 AIPLA Q.J. 277, 293–300 (1997) (identifying economies of scale, network externalities, and intellectual property rights as creating barriers to entry in software markets).

126. See Lemley, *supra* note 122, at 1056.

The Internet software industry is not a natural monopoly. The most

McGowan additionally notes that in markets characterized by network effects, requiring the monopolist to grant access to its information could create the anomaly of further entrenching the monopolist's position.¹²⁷ For example, if Microsoft were forced as a matter of antitrust law to enable competitors to write compatible applications, network effects would be reinforced — when more applications are written for a system, it becomes more attractive and consumers are less likely to switch to a competitor's product.¹²⁸

At the same time, though, essential facilities doctrine seems to fit the facts in the recent cases involving the computer industry. Both Microsoft and Intel control products that effectively create "bottlenecks" through which other competitors must squeeze to enter other markets. The essential facilities doctrine can police the operation of the bottleneck. One commentator notes, though, that an essential facilities remedy that requires the license of an intellectual property right effectively creates "an easement across the monopolist's intellectual

important difference is that the cost of initial fixed investment in computer software, while high relative to the marginal cost of producing copies of computer programs (which is near zero today), is still low in an absolute sense. Capital markets can and do provide financing for those interested in developing new software programs, meaning that initial barriers to entry are much smaller than in traditional natural monopoly markets. As a result, both entry and innovation are much more common in software markets than in electric power distribution markets.

Id. See also David McGowan, *Regulating Competition in the Information Age: Computer Software as an Essential Facility Under the Sherman Act*, 18 HASTINGS COMM. & ENT. L.J. 771, 846 (1996) (noting that "not all firms with declining average costs are natural monopolists" and contending that the evidence of a number of operating systems in the market indicates that they are replicable and therefore not a natural monopoly justifying use of the essential facilities doctrine).

127. See McGowan, *supra* note 126, at 848 (stating that invoking essential facilities in software markets "could well make the network effects even stronger, and thus make entry (and thus market discipline) more sluggish").

128. See *id.* at 849.

At most, the essential facilities doctrine could compel a firm owning a standard to grant access to other firms on some economically reasonable basis. If the owner of an operating system were precluded from closing its architecture to firms seeking to write complementary programs, more programs would likely be written for the operating system, reinforcing one of the factors presumed to cause tipping. In other words, it makes no sense to attempt to remedy inertia by adding to the load of goods that tie the market to the existing system in the first place.

Id.

property.”¹²⁹ The question is whether this easement will decrease innovation by discouraging the first investor or increase it by opening up competition in secondary markets. Answering this question requires considering whether a would-be monopolist should calculate its investment returns from only its primary market or also from secondary markets and whether network effects should influence the inquiry. Thus, we have circled back to where this Section started — how to define the appropriate scope of the intellectual property right in terms of the markets to which it should extend.

The policy questions are thus complex. The goal seems simple enough — to encourage innovation — but because the two sets of laws attempt to do so in such different manners, the potential for conflict is present. Policymakers should try to gather empirical evidence to help define more reliably the markets to which an intellectual property right extends. Policymakers should also understand that copyright and patent themselves differ and consider what implications those differences may hold for defining the antitrust and intellectual property border. Moreover, they must consider the relevant intellectual property doctrines that limit the scope of intellectual property rights, and whether additional regulation is needed. In doing so, they must also assess the impact of network effects. This should help decision makers arrive at a reasonable balance between intellectual property and antitrust laws.¹³⁰

C. Restrictive Licenses

This unilateral refusal to deal analysis, while illuminating for the Intel litigation, does not address Microsoft’s contention that when it chooses to deal, it cannot be held liable for an antitrust violation when its licenses merely echo the rights it has under copyright law.¹³¹ A

129. Donahey, *supra* note 125, at 313–21 (arguing, however, that the law should not be concerned about granting such an easement because the monopolist should only calculate investment return from its primary market, and intellectual property doctrines like misuse already achieve results similar to those obtained under the essential facilities doctrine).

130. Some would argue that Congress has already set forth that balance, at least with respect to patents. Section 271(d)(4) of the Patent Act states that “No patent owner otherwise entitled to relief for infringement . . . shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of having . . . refused to license or use any rights to the patent.” 35 U.S.C. § 271(d)(4) (1994). The *CSU* court thought that this section could be dispositive but noted that the *Kodak* court viewed it as barring only a patent misuse action rather than an antitrust one. See *In re Independent Service Organizations Antitrust Litigation*, 989 F. Supp. 1131, 1135–36 (D. Kan. 1997).

131. Note that many of the same policy considerations already identified *supra* Part

monopolist may choose to license its intellectual property in one of three ways: (1) granting rights that are more generous than what would be accorded a licensee under the relevant intellectual property statute; (2) granting the same rights; or (3) granting fewer rights. The question is whether licensing under one or more of these scenarios could constitute an antitrust violation.

The law in this area is quite sparse. One reason might be that, as noted earlier, most antitrust cases assessing restrictive contractual provisions do not address the fact that the ownership of an intellectual property right may have been the leverage that one party used to extract agreement to a particular provision. The relationship between the intellectual property right and the contractual provision is often not obvious — a contractual clause forbidding the licensee to deal with another party is not clearly related to the licensor's intellectual property. A second reason why there may be relatively little antitrust law on the subject is that license provisions are generally dealt with under contract law or the doctrines of intellectual property misuse.

In some cases, however, the relationship is more obvious. For example, software license clauses that prohibit reverse engineering rather clearly contract around the Copyright Act's fair use provision.¹³² In such cases, the contractual clause is directly related to the intellectual property right. Though the particular clause may have been simply a result of give-and-take negotiation rather than an explicit exercise of market power resulting from the intellectual property right, it seems facially to relate to that right. This may encourage parties to contend that such restrictive provisions represent unlawful leveraging of the intellectual property monopoly under antitrust law.

As a policy matter, the three cases set forth above should probably be viewed differently. Antitrust concerns normally should not be implicated where the intellectual property rights accorded to the licensee by agreement are the same as or greater than what it would have at law. In both cases, the set of rights granted by contract are within the statutory monopoly grant of intellectual property. Contracts that grant the licensee fewer rights than it would have under the intellectual property statutes deserve greater scrutiny because they enlarge the statutory monopoly. This is not to say that antitrust liability should be found in such a case, merely that such clauses are the most likely of the

II.A apply in this context as well.

132. See Maureen A. O'Rourke, *Drawing the Boundary Between Copyright and Contract: Copyright Preemption of Software License Terms*, 45 DUKE L.J. 479, 480–82 (1995).

three types to have an anticompetitive effect. For example, one could argue that Microsoft's licenses do, in fact, enlarge its copyright rights by granting the licensee fewer rights than it would have under copyright law.¹³³ Expanding the scope of the intellectual property monopoly by contract in a case in which the defendant possesses monopoly power in the relevant antitrust market could constitute illegal maintenance of that power under the Sherman Act. This is particularly true where the case involves exclusionary conduct in addition to such license terms.

Microsoft may be correct in asserting that it should not be held liable as an antitrust matter if its licenses in fact only repeat the rights that it has under copyright law. However, it is important to keep in mind the distinction between a finding of antitrust liability and the remedy granted for such a violation. Where a monopolist has engaged in other exclusionary conduct for which there is no defense, apart from and regardless of which of the three types of licenses it employs, a court may enter a remedial order requiring adjustment of the licensing provisions to redress the antitrust harm caused. Such remedies are hardly revolutionary and are unlikely to adversely affect incentives to innovate because they are based on a finding of antitrust liability arising from conduct other than the intellectual property license.

Microsoft may be such a case. A finding of antitrust liability could easily be based on exclusionary conduct apart from the license terms. To remedy that harm, a court could require that Microsoft license its

133. Under the Copyright Act's first sale doctrine, "the owner of a particular copy . . . lawfully made . . . is entitled, without the authority of the copyright owner, to sell or otherwise dispose of the possession of that copy" and such sale will not violate the copyright owner's exclusive distribution right. 17 U.S.C. § 109(a) (1994). Windows contains utilities that allow the user to customize the desktop by altering its display. The OEM is the initial user with such ability. The question is whether it would infringe Microsoft's copyright by reselling such a modified version. The first sale doctrine seems to say that such resale would not be an infringement. Thus, Microsoft's restrictions refusing to allow OEMs to customize the desktop enlarge its rights under copyright law by contracting around the first sale doctrine. However, the case is not so simple. The first sale doctrine does not insulate the copy owner (here, the OEM) from infringing the copyright owner's exclusive right to prepare a derivative work. If the altered display constitutes a derivative work, then Microsoft's license provisions grant it no greater rights than copyright law. If it does not, then those provisions do enlarge its rights by contracting around the first sale doctrine. The cases on what constitutes an infringing derivative work conflict. See Maureen A. O'Rourke, *Fencing Cyberspace: Drawing Borders in a Virtual World*, 82 MINN. L. REV. 609, 662–68 (1998) (summarizing the derivative works cases and noting the conflicting views). This Article takes no position on whether the altered screens could be a derivative work. The point is simply that depending on the outcome of that issue, the license restrictions may or may not simply restate Microsoft's copyright rights.

software under particular terms. Yet, such an order should not decrease the copyright's value because it is simply a remedial measure to address conduct unrelated to the intellectual property right.

D. A Postscript — The Role of Contract Law

Interestingly, all of the cases discussed above are ones in which the parties had some type of dealings with each other, either in the past or at the time of the alleged anticompetitive conduct. This suggests that despite the amount of ink that has been and will be devoted to debating antitrust and intellectual property concerns, many cases will be disposed of in a more mundane way — under state contract law. Such law may prove to be an attractive alternative because it would allow courts to incorporate policy concerns without threatening the defendant with the treble damages remedy of antitrust law. Thus, even if a court were to make a “mistake,” the impact on innovation incentives is likely to be much less significant than if it made a mistake in awarding treble damages.

For example, the *Intergraph* court probably could have rested its holding solely on the contractual doctrine of unconscionability rather than also using essential facilities. Doctrines such as good faith, commercial reasonableness, and unconscionability are flexible enough to allow a court to consider relevant market conditions and to decide whether a restrictive license should or should not be enforced. In the absence of a coherent standard that fits antitrust and intellectual property law together, contract law may offer an attractive alternative in many cases. It can help to keep incentives in place until such time as policymakers have provided courts with more guidance.

IV. CONCLUSION

The recent complaints filed by the DOJ and the FTC have attracted a good deal of attention for many reasons, including their potential impact on intellectual property rights. They raise difficult issues regarding the antitrust and intellectual property border that may take some time to resolve.

Clearly, issues such as those raised here need further analysis, beyond the scope of this Article. That analysis is best engaged in by a deliberative body capable of extensive fact-finding — the Congress. Between Congress and the courts, Congress seems better suited from an institutional competence perspective to gather the relevant information and make a reasoned decision. In the meantime, courts faced with live disputes should proceed carefully in the absence of legislative guidance,

perhaps grounding decisions in areas of law less punitive than antitrust — such as contract — to try to maintain some reasonable incentive to innovate and yet still safeguard competition.